

ABSTRACT OF THE DISCLOSURE

A method for making a magnetic sensor for a disk drive read head comprises the steps of fabricating a giant magnetoresistive stack on a surface of a layer of bottom shield material, the giant magnetoresistive stack including an etch stop layer positioned on an end of the giant magnetoresistive stack opposite the surface and a buffer layer positioned on the etch stop layer, depositing an insulating material on the giant magnetoresistive stack and the surface of the layer of bottom shield material, planarizing the insulating material to form a top surface of the insulating material lying in a plane adjacent to or passing through the buffer layer, vacuum etching the buffer layer, and depositing a top shield layer on the insulating material and the giant magnetoresistive stack. A self-planarizing material can also be deposited on the insulating material. If the giant magnetoresistive stack is fabricated without the buffer layer and etch stop layer, then the self planarizing material and the insulating material can be planarized using a vacuum etch process until a surface of the insulating material lies in a plane adjacent to an end of the giant magnetoresistive stack. Alternatively, the self-planarizing material can be applied without the insulating material, and then planarized using a vacuum etch process until a surface of the self-planarizing material lies in a plane adjacent to an end of the giant magnetoresistive stack. Magnetic sensors made in accordance with the above methods are also included.